interference to services provided within the United States by U.S. MSS licensees. For example, foreign systems operating in Mexico could interfere with U.S. MSS system operations in states bordering with Mexico and throughout the Caribbean basin. The Commission must resolve how it will reimburse MSS licensees for the loss, due to international coordination, of the use of any spectrum for which the licensees have paid.

Quite apart from the logistical difficulties in auctioning 2 GHz spectrum for MSS, the decision to do so would have catastrophic consequences for U.S. MSS system operators seeking to provide service abroad. The Commission has previously observed that the use of auctions for the award of licenses in global MSS spectrum may encourage other nations to retaliate by imposing their own licensing costs on U.S. MSS systems seeking to provide service in their respective territories.[22/] In fact,

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22/ See Amendment of the Commission's Rules to Establish Rules and Policies Pertaining to a Mobile Satellite Service in the 1610-1626.5/2483.5-2500 MHz Frequency Bands (Notice of Proposed Rule Making), 9 FCC Rcd 1094, 1117 (1994). Then-Chairman Quello wrote to various members of Congress in 1993 that "requiring use of competitive bidding for low Earth orbiting satellite system licenses in this country might subject those licensees to exorbitant payment requirements for access to spectrum in other countries." Letter from James H. Quello, Chairman, FCC, to various members of Congress (June 23, 1993). See also TRW MSS Above 1 GHz Comments at 94.

the Commission's use of spectrum auctions to date has been watched with great interest by other nations. Commissioner Chong was quoted as stating, upon her return from the ITU Plenipotentiary Conference in Kyoto last year, that "everywhere I went, telecom ministers were pulling me aside to ask about our first auctions . . . they want to know how we did it."[23/]

Should the United States lead the way in subjecting MSS system operators to bidding wars for spectrum, it is all but certain that nations around the globe will follow suit.[24/] The cost to MSS operators of entering auction after auction in order to gain access to each foreign nation would be so high as to make global MSS economically impractical, thereby denying to the

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23/ Communications Daily (Oct. 17, 1994), at 4.

24/ The Commission recently initiated a proceeding to consider issues relating to access of U.S. entities to foreign markets and of foreign-affiliated entities to the U.S. market. See Market Entry and Regulation of Foreign-Affiliated Entities (IB Docket No. 95-22), FCC 95-53 (1995) ("Market Entry NPRM"). In the Market Entry NPRM, the Commission proposed to employ, as an important element of its public interest standard for considering applications of foreign carriers seeking entry to the U.S. market under Section 214, a demonstration that effective market access is or will soon be available to U.S. carriers seeking to provide service in the primary markets served by the carrier requesting entry. If the Commission were to auction spectrum for global MSS while employing this reciprocal approach to market entry, it could hardly expect other nations to respond in any way other than with auctions of their own.

peoples of the world the many and diverse benefits of MSS technology. Under no circumstances should the Commission bring this nightmare to life by auctioning 2 GHz, or any other, MSS spectrum.[25/]

III. The Commission Should Adopt Technical Requirements For 2 GHz MSS That Maximize Both Efficiency And Competition In The Subject Bands.

In adopting technical requirements for the provision of 2 GHz MSS, the Commission should strive to serve the public interest by making the most efficient possible use of the available spectrum and permitting the most vigorous possible competition within the subject bands. To that end, TRW urges the Commission to require 2 GHz MSS licensees to employ CDMA modulation techniques, as those techniques permit spectrum sharing and thereby allow the maximum possible number of licensees to make use of the available bands. Under no circumstances should the Commission impose an FDMA/TDMA-only

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25/ The Commission responded to similar arguments in passing in the Big LEO Report and Order, stating that TRW and other commenters had "provided no concrete evidence . . . that an auction would have these harmful effects." Big LEO Report and Order, 9 FCC Rcd at 5971. As the Commission has never before auctioned international satellite spectrum, its response clearly placed an unreasonable burden on the commenters. Common sense, however, suggests that TRW and the other commenters are right.

requirement on 2 GHz MSS licensees. As FDMA/TDMA systems cannot share frequencies with other systems, such a requirement would make the least efficient possible use of a scarce resource. In addition, it would result in maximum disruption to licensees using the bands when subsequent applicants seek to provide MSS in the same spectrum.

TRW also urges the Commission to permit 2 GHz MSS licensees to use the subject bands to operate LEO, MEO or GSO satellite systems, and to require that all systems offer global coverage. Provided that they use the bands allocated for international use at WARC-92 for the purpose for which those bands were set aside, licensees should be able to design their satellite systems as they see fit.[26/]

26/ With regard to the petition of Celsat, Inc. ("Celsat") for allocation of certain 2 GHz bands to provide a hybrid GSO/terrestrial PCS service, TRW is opposed to the provision of terrestrial PCS in any bands that are not specifically allocated for PCS use. TRW is also opposed to the use of the 2 GHz MSS bands for purposes of providing a domestic-only satellite service such as that proposed by Celsat. On this same matter, the Commission is incorrect in stating that Celsat is an applicant for an MSS license in the 1610-1626.5 MHz and 2483.5-2500 MHz bands. See NPRM, FCC 95-39, slip op. at n.9. While Celsat did originally seek an allocation for its proposed hybrid service in the 1610-1626.5 and 2483.5-2500 MHz bands, it amended its petition in July 1993 to request allocation of the 1970-1990 and 2160-2180 MHz bands instead. See id. at n.6.

Lastly, the Commission should seek to maximize capacity and minimize interference between 2 GHz MSS and other services by requiring that the pfd at the Earth's surface produced by emissions from a licensee's space station, including emissions from a reflecting satellite, for all conditions and for all methods of modulation, should not exceed -137 dB(W/m²/4 kHz).

IV. Conclusion.

TRW opposes the Commission's plan to charge MSS licensees for the cost of relocating the BAS and the FS as the price for making use of the 2 GHz bands, and questions the possibility of allocating that cost fairly among MSS licensees in any event. TRW also vigorously disagrees with the Commission's proposal to award 2 GHz MSS licenses via competitive bidding. TRW urges the Commission to choose a date for commencement of MSS operations in the 2 GHz bands that will give the BAS sufficient opportunity to adopt a more spectrum-efficient technology that may reduce or

eliminate the otherwise enormous cost of relocating the BAS and the FS. TRW also urges the Commission to adopt the technical requirements for 2 GHz MSS outlined herein.

Respectfully submitted,

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